

**WHAT IS CLAIMED IS:**

1. A method of making multiple substantial copies of a biological sample, comprising:
  - 5 providing a stack of layered membranes, wherein said membranes permit biomolecules applied to said stack to move through multiple of said membranes, while directly capturing said biomolecules on multiple membranes; and
  - applying said biological sample to said stack, under conditions that allow said multiple membranes to directly capture said biomolecules from said sample and form
  - 10 said multiple substantial copies of the biological sample.
2. The method of claim 1, further comprising detecting biomolecules of interest on said multiple membranes.
3. The method of claim 2, wherein detecting biomolecules of interest comprises exposing said multiple membranes to a detector.
- 15 4. The method of claim 3, wherein the biological sample is a tissue specimen that is placed on said stack of layered membranes, and biomolecules from said tissue specimen are directly captured by said layered membranes as said biomolecules from said tissue specimen move through said multiple membranes.
5. The method of claim 3, further comprising separating said multiple
- 20 membranes prior to detecting said biomolecules of interest.
6. The method of claim 1, wherein said biomolecules applied to the stack are themselves detectors that are exposed to a biological specimen to be analyzed, and the method further comprises exposing one or more of said multiple membranes to said biological specimen under conditions that allow said biological specimen to be
- 25 analyzed by the detectors.
7. The method of claim 6, wherein said biomolecules on said multiple membranes are nucleic acid molecules, and detecting biomolecules of interest comprises exposing said nucleic acid molecules on said multiple membranes to said

biological specimen to be analyzed, under conditions that allow hybridization between said nucleic acid molecules on said membranes and nucleic acid molecules in said biological specimen.

8. A method of detecting biomolecules in a sample comprising:
  - 5 a. providing a stack of layered membranes;
  - b. applying said sample to said stack under conditions that permit movement of said biomolecules through multiple layered membranes of said stack, and allow direct capture of said biomolecules on said membranes; and
  - c. detecting said biomolecules on one or more of said multiple
- 10 membranes.
9. The method according to claim 8 wherein said membranes comprise a plurality of porous substrates each having a thickness of less than 30 microns.
10. The method according to claim 9 wherein one or more of said substrates comprise a material for increasing the affinity of the membrane to the
- 15 biomolecules.
11. The method of claim 10, wherein said material is coated on the one or more of said membranes.
12. The method of claim 9 wherein said porous substrates comprise a material selected from the group consisting of polycarbonate, cellulose acetate, and
- 20 mixtures thereof.
13. The method of claim 12, wherein said porous substrate is a polycarbonate substrate.
14. The method of claim 10, wherein said material for increasing affinity is selected from the group consisting of nitrocellulose, poly-L-lysine, and mixtures
- 25 thereof.
15. The method according to claim 8 wherein said sample is a tissue section.

16. The method of claim 8, wherein detecting said biomolecules comprises separating one or more of said membranes from said stack, and detecting said biomolecules on the one or more of the separated membranes.

17. The method of claim 8, wherein said conditions that permit movement  
5 of said biomolecules through said multiple membranes comprises passing a transfer liquid through said layered membranes.

18. The method of claim 8, wherein said conditions that permit movement of said biomolecules through one or more of said membranes comprises providing a wick that encourages movement of said biomolecules through said stack of layered  
10 membranes in a desired direction of movement.

19. The method of claim 8, wherein said stack of layered membranes comprises 50 or more of said membranes.

20. The method of claim 8, wherein said sample is a DNA sample.

21. The method of claim 8, further comprising correlating said  
15 biomolecules detected on said one or more membranes with a biological characteristic of said sample.

22. A kit comprising:

a. a membrane array for detecting biomolecules in a sample, said array comprising a plurality of membranes, wherein each of said plurality of membranes  
20 have substantially a same affinity for said biomolecules; and

b. containers of antibodies or probes for detecting biomolecules captured on each membrane.

23. The kit according to claim 22 wherein said membranes comprise a polymer substrate coated with a material for increasing an affinity of said substrate to  
25 said biomolecules.

24. The kit according to claim 23 wherein said coating material is nitrocellulose.

25. The kit according to claim 22 said antibodies or probes are specific capture molecules for biomolecules sought to be detected on particular membranes of said array.

5 26. The kit according to claim 25 wherein each container contains an antibody cocktail.

27. The kit according to claim 22 wherein said plurality of membranes have a low capacity for said biomolecules.

28. The kit according to claim 22 wherein said plurality of membranes each have a thickness of less than about 30 microns.

10 29. A method of creating a set of microarray copies comprising:  
a. providing a stack of layered membranes; and  
b. applying a plurality of DNA probes, antibodies, or a combination thereof, to said stack of layered membranes, wherein said stack of layered membranes comprises a plurality of substrates through which said probes or antibodies move, and  
15 in which a portion of said probes or antibodies are directly captured by one or more of said substrates.

30. The method of claim 29, further comprising separating said substrates to provide corresponding substrates having a plurality of said DNA probes, antibodies or combination thereof, in corresponding positions of each of said substrates.

20 31. The method of claim 29, wherein applying said plurality of DNA probes, antibodies, or combination thereof, is applied to said stack from a plate having a plurality of wells each containing a different DNA probe or antibody, and said DNA probes or antibodies are transferred from said wells to said stack so as to create a set of substantially replicate microarrays.